

What Is Claimed Is:

1. A method for joining a precious-metal section to an electrode of a spark plug, comprising:  
    positioning the precious-metal section on the electrode;  
and  
    applying a laser beam at least to the precious-metal section positioned on the electrode, wherein the precious-metal section is joined to the electrode by heat input generated by the laser beam, and wherein the laser beam at least substantially covers the precious-metal section.
2. The method as recited in claim 1, wherein no relative movement occurs between the laser beam and the precious-metal section during the application of the laser beam.
3. The method as recited in claim 2, wherein an intensity of a first portion of the laser beam applied to a first region of the precious-metal section is higher than an intensity of a second portion of the laser beam applied to a second region of the precious-metal section.
4. The method as recited in claim 3, wherein at least the first region of the precious-metal section is fused with the electrode to form an alloy.
5. The method as recited in claim 4, wherein, following the application of the laser beam on the precious-metal section, the alloy contains a higher proportion of the material of the electrode in an area of the alloy corresponding to the first region of the precious-metal section than in an area of the alloy corresponding to the second region of the precious-metal section.
6. The method as recited in claim 3, wherein the

precious-metal section has an edge region and a center region, and wherein the intensity of the first portion of the laser beam applied to the edge region of the precious-metal section is greater than the intensity of the second portion of the laser beam applied to the center region of the precious-metal region.

7. The method as recited in claim 6, wherein the electrode contains nickel, and wherein the precious-metal section contains at least one of platinum, iridium, rhodium, ruthenium and palladium.

8. The method as recited in claim 3, wherein the precious-metal section is positioned at least partially in a recess provided in the electrode.

9. The method as recited in claim 8, wherein the spark plug includes a center electrode and at least one ground electrode, the ground electrode being joined to the precious-metal section, the center electrode being electrically insulated from a housing of the spark plug by an insulator, and the ground electrode being affixed to the housing.

10. The method as recited in claim 8, wherein the spark plug includes a center electrode and at least one ground electrode, the center electrode being joined to the precious-metal section, the center electrode being electrically insulated from a housing of the spark plug by an insulator, and the ground electrode being affixed to the housing.

11. The method as recited in claim 3, wherein the laser beam is applied continuously.

12. The method as recited in claim 3, wherein the precious-metal section contains at least one of a pure

precious metal, a precious-metal alloy and an alloy containing a precious metal.

13. The method as recited in claim 3, wherein the laser beam achieves joining of the electrode and the precious-metal section by heat-conduction welding.

14. A spark plug, comprising:

an electrode; and

a precious-metal section joined to the electrode and having improved corrosion resistance, the precious-metal section containing an alloy that includes at least one precious metal and a material of the electrode, wherein the proportion of the material of the electrode varies in the precious-metal section.

15. The spark plug as recited in claim 14, wherein the precious-metal section has an edge region and a center region, and wherein the edge region contains a higher proportion of the material of the electrode than the center region.